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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,235	12/01/2000	Masaaki Ishida	P100725-0017	9089

7590

03/27/2002

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EXAMINER

IP, SIKYIN

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 03/27/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 12/1/00; 3/15/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-13 is/are pending in the application.
- Of the above claim(s) 8-13 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-7 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☒ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

DETAILED ACTION

Election/Restriction

1. Restriction is required under 35 U.S.C. § 121 and § 372.
2. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
3. In accordance with 37 C.F.R. § 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.
4. Group I is, claims 1-7, drawn to a spring surface treatment method.
5. Group II is, claims 8-13, drawn to a spring product.
6. The inventions listed as Group I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical features of Claim 1 is spring shot-peening steps but the special technical features of claim 8 is spring fatigue and hardness properties which do not correspond to the technical features of Claim 1. Unity does not exist between claims 1 and 8.
7. During a telephone conversation with George E. Oram, Jr. on March 15, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7. Affirmation of this election must be made by applicant in replying to

this Office action. Claims 8-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

8. The cited references in the search report have been considered.

Specification

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
10. The disclosure is objected to because of the following informalities: The instant specification should not rely on the claims for support, examples can be found in pages 6, 7, 9, and etc. The claimed limitations should be supported by the specification. Moreover, claims may be deleted or restricted during prosecution. Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject

matter which the applicant regards as his invention.

12. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claims 1-6 are indefinite because it is unclear whether the text in a pair of brackets is part of the limitation, for example see claim 1, step (B), (micro-Vickers ... surface).

14. Claim 2 is indefinite because the expression "such as" on line 3 renders the claim indefinite. It is unclear whether the limitation(s) following the phrase are part of the claimed invention or not, and the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Ex parte Koch, 66 USPQ 490 and Ex parte Steigerwald, 131 USPQ 74. Furthermore, the expression "and the like" at the end of step (A), renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

15. Claim 4 is indefinite because the expression "and the like" in lines 2-3 renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 1-3 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 07214216 or USP 5665179 to Izawa et al in view of USP 5816088 to Yamada et al and further teaching of JP 08053711.

19. The JP 07214216 and Izawa et al reference(s) disclose(s) the features including nitriding spring steel and two stages shot peening. The features relied upon described above can be found in the reference(s) at: JP 07214216 (abstract) and Izawa et al (col. 4, lines 10-53). The difference between the reference(s) and the claims are as follows: JP 07214216 does not disclose the detail of shot peening

conditions and Izawa et al use shots bigger than the claimed in second stage peening. Both references silent about keeping the impact temperature below recrystallization temperature. However, Yamada et al in col. 2, lines 37-61 disclose(s) finer particles of hard metal would increase yield strength and maintain smoother surface roughness. Keeping the impact temperature below recrystallization temperature could help dislocation anchoring. Therefore, it would have been obvious to one having ordinary skill in the art of the cited references at the time the invention was made to use finer shots in second peening stage and maintain the impact temperature below recrystallization temperature as taught by Yamada in order to improve the surface roughness and dislocation anchoring (col. 2, lines 62-67). In re Venner, 120 USPQ 193 (CCPA 1958), In re LaVerne, et al., 108 USPQ 335, and In re Aller, et al., 105 USPQ 233.

20. JP 08053711 is cited to show nitridation could be done after shot peening. It is well settled that merely reversing the order of the steps of a multi-step process does not impart patentability when no unexpected results is obtained. Ex parte Rubin, 128 USPQ 440 (PPOBA 1959) and Cohn v. Comr. Pats., (DCDC 1966) 251 F Supp 378, 148 USPQ 486.

Conclusion

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To

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emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.


Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See MPEP § 2163.06 (a) and 37 C.F.R. § 1.119.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (703) 308-2542. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (703)-308-1146.

The facsimile phone numbers are (703) 872-9310 (non-final Official Paper only), (703) 872-9311 (after-final Official Paper only), and (703) 305-7719 (Unofficial Paper only). When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.



SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
March 21, 2002